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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,434	12/28/2001	Wen-Shan Wang	42390P11957	8921

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EXAMINER

DO, CHAT C

ART UNIT PAPER NUMBER

2124

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

10/039,434

Applicant(s)

WANG ET AL.

Examiner

Chat C. Do

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/28/01; 03/08/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-20 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the abstract is written less than 50 words and it should avoid using phrase which is unclear such as "the embodiments are discloses" in line 1. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 7-10, and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Acharya (U.S. 6,662,200).

Re claim 1, Acharya discloses in Figures 5-6 a method of implementing a pyramid filter bank (abstract) comprising: (e.g. computing  $s_i^5$  in col. 3 line 37) first adding a first (e.g.  $x_{i-2}$ ) and a last input signal sample (e.g.  $x_{i+2}$ ) to a sum of input samples (e.g.  $b_i^3 = x_{i-1} + x_i + x_{i+1}$ ) of a next lower-tap filter of a current filter to produce a sum of input signal samples for the current filter (e.g.  $s_i^5$ ); and second adding the sum of input signal samples for the current filter (e.g.  $s_i^5$ ) to an output signal sample of the next lower-tap filter of the current filter (e.g.  $b_i^3$ ) to produce an output signal sample for the current filter (e.g.  $b_i^5$ ).

Re claim 2, Acharya further discloses in Figures 5-6 the first and second adding is performed by different adders (410 and 420 respectively in Figure 4 and col. 4 lines 60-64).

Re claim 7, Acharya further discloses in Figures 5-6 the first and second adding is applied by row (col.1 lines 15-20).

Re claim 8, Acharya further discloses in Figures 5-6 the first and second adding is applied by column (col.1 lines 15-20).

Re claim 9, it is an article claim of claim 1. Thus, claim 9 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 10, it is an article claim of claim 2. Thus, claim 10 is also rejected under the same rationale as cited in the rejection of rejected claim 2.

Re claim 15, it is an article claim of claim 7. Thus, claim 15 is also rejected under the same rationale as cited in the rejection of rejected claim 7.

Re claim 16, it is an article claim of claim 8. Thus, claim 16 is also rejected under the same rationale as cited in the rejection of rejected claim 8.

Re claim 17, it is an integrated circuit claim of claim 1. Thus, claim 17 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6, 11-14, and 19-20 are rejected under 35 U.S.C. 103(a) as being obvious over Acharya (U.S. 6,662,200) in view of Carlson et al. (U.S. 4,674,125).

Re claim 3, Acharya discloses in Figure 5-6 the pyramid filter bank is applied to an image (col. 1 lines 10-20), but does not disclose in Figures 5-6 the pyramid filter bank comprises a two-dimensional pyramid filter bank and the first and second adding is applied by column and by row. However, Carlson et al. disclose in Figures 4-6 the pyramid filter bank comprises a two-dimensional pyramid filter bank (col. 1 lines 20-28) and the first and second adding is applied by column and by row (col. 3 lines 64-66). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the pyramid filter bank comprises a two-dimensional pyramid filter bank as an image as seen in Carlson et al.'s invention into Acharya's

invention because it would enable to increase the system performance by efficiently filtering the image signal in two dimensions.

Re claim 4, Acharya further discloses in Figures 5-6 the column and the row adding is performed independently (col. 3 line 38).

Re claim 5, it has same limitations cited in claim 3. Thus, claim 5 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 6, Acharya further discloses in Figures 5-6 the first and second adding is performed progressively (col. 3 line 38).

Re claim 11, it is an article claim of claim 3. Thus, claim 11 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 12, it is an article claim of claim 4. Thus, claim 12 is also rejected under the same rationale as cited in the rejection of rejected claim 4.

Re claim 13, it is an article claim of claim 5. Thus, claim 13 is also rejected under the same rationale as cited in the rejection of rejected claim 5.

Re claim 14, it is an article claim of claim 6. Thus, claim 14 is also rejected under the same rationale as cited in the rejection of rejected claim 6.

Re claim 19, it is an integrated circuit claim of claim 3. Thus, claim 19 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 20, it is an integrated circuit claim of claim 4. Thus, claim 20 is also rejected under the same rationale as cited in the rejection of rejected claim 4.

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***Allowable Subject Matter***

7. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 4,674,125 to Carlson et al. disclose a real-time hierarchal pyramid signal processing apparatus.
- b. U.S. Patent No. 6,438,567 to Schollhorn discloses a method for selective filtering.
- c. U.S. Patent No. 6,650,688 to Acharya et al. disclose a chip rate selectable square root raised cosine filter for mobile telecommunications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (703) 305-5655. The examiner can normally be reached on M => F from 7:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2124

September 22, 2004

  
KAKALI CHAKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100